

The Alba 501 three-valve plus rectifier receiver made by A. J. Balcombe, Ltd.

### VALVE READINGS

No signal. No reaction.

V.	Type.	Electrode.	Volts.	M.A.
1	VP4 met (7)	.. anode ..	245	4.3
		aux. grid	120	—
2	SP4 met (7)	.. anode ..	*	.6
		aux. grid	*	—
3	Pen4VB (7)	.. anode ..	235	29
		aux. grid	246	3.5

\* Very high resistances in circuit cause entirely misleading readings.

### RESISTANCES

R.	Purpose.	Ohms.
1	Lower part of V1 aux. grid ptr...	50,000
2	Upper part of V1 aux. grid ptr...	40,000
3	V1 cathode bias (fixed part) ..	250
4	Across P.U. ....	75,000
5	V2 grid leak ..	1 meg.
6	Voltage dropping to V2 aux. grid	1 meg.
7	V2 anode coupling ..	.25 meg.
8	V2 anode decoupling ..	50,000*
9	V2 cathode bias ..	1,000
10	V3 grid leak ..	.5 meg.
11	V3 grid stabiliser ..	.1 meg.
12	V3 cathode bias ..	150
—	V.C. ....	10,000
—	L.S. field ..	2,000

### CONDENSERS

C.	Purpose.	Mfd.
1	Series aerial ..	.0001
2	V1 aux. grid by-pass ..	.1
3	V1 cathode by-pass ..	.1
4	V2 grid reservoir ..	.0001
5	V2 aux. grid by-pass ..	.1
6	V2 cathode by-pass ..	25 el.(25)
7	V2 anode decoupling ..	2 el.(250)
8	L.F. coupling V2 to V3 ..	.005
9	H.F. by-pass from V2 anode ..	.0002
10	V3 cathode by-pass ..	25 el.(25)
11	V3 anode, tone compensating ..	.005
12	H.T. smoothing ..	6 el.(440)
13	H.T. smoothing ..	6 el.(440)
14	Mains aerial ..	.0002

## ALBA MODEL 501 A.C.

**Circuit.**—The H.F. valve, VP4A met. (V1), has a tuned secondary transformer as aerial coupling. The aerial lead includes a special Droitwich filter.

Volume is controlled by a potentiometer which simultaneously increases the bias on the H.F. valve as it damps the aerial. The following coupling is an H.F. transformer with tuned secondary.

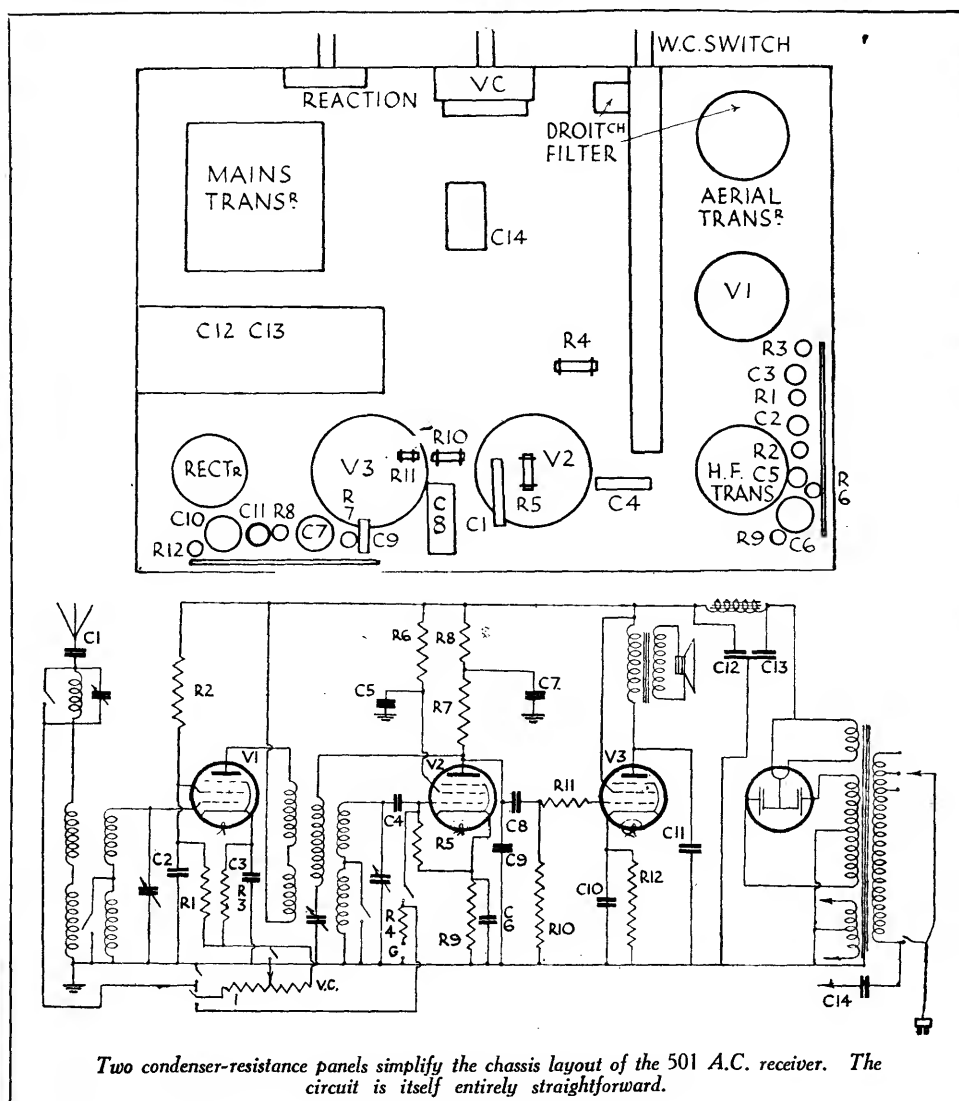
The next valve, an SP4 met. (V2), is a leaky grid detector with reaction. A resist-

ance-capacity filter couples it to the output valve (V3), which is a Pen4VB.

This valve has a grid stabilising resistance and is tone compensated by a condenser between the anode and chassis.

Mains equipment consists of: transformer, full-wave IW3 indirectly-heated rectifier, the speaker field, which is in the positive H.T. lead, and two 6-mfd. electrolytic condensers.

**Special Notes.**—The Droitwich filter is (Continued on next page.)



## ALBA MODEL 501 A.C. RECEIVER (Cont.)

a wavetrap which is connected into circuit by the switch (white spot uppermost) so that Droitwich will not spread over other stations.

The tuning adjustment is made from above through an aperture provided in the chassis.

**Quick Tests.**—Between the terminals

and tags on the speaker transformer and chassis:—

Top (1) 325 volts, H.T. unsmoothed.

(2) 235 volts, V3 anode.

(3) and (4) 246 volts, H.T. smoothed.

The speaker field is 2,000 ohms.

**Removing Chassis.**—Remove the knobs (grub screw) and four screws underneath.

**General Notes.**—This is a particularly simple set to service. All components are either colour coded or stamped, and the connections to the mains transformer are labelled.

**Replacing Chassis.**—Lay the chassis inside the cabinet, replace holding screws and knobs.